What is Copper recycling?

Copper recycling is the process of collecting, processing, and reusing copper scrap and waste to create new copper products, rather than relying on newly mined ore. This process involves several stages: collection, sorting, melting, purification, and reforming into new products. Recycling copper is beneficial because it conserves energy, reduces the need for mining, and minimizes environmental impact.

Here's a more detailed breakdown:

1. Collection:

Copper scrap is gathered from various sources, including construction sites, discarded electronics, plumbing systems, and manufacturing waste.

2. Sorting and Processing:
The collected copper is separated from other materials (like plastics and other metals) and sorted by type (e.g., bare bright wire, #1 copper, #2 copper). Larger pieces are shredded to make them easier to handle.
3. Melting and Refining:
The sorted copper is melted down in a furnace to remove impurities. Advanced refining methods, such as electrolysis, may be used to further purify the copper and ensure it meets the quality standards for reuse.
4. Reforming:
The purified copper is then cast into various shapes, like ingots, rods, or sheets, ready to be used in new products.
5. Redistribution:
The recycled copper re-enters the market, finding its way into new electrical wiring, plumbing, construction materials, and other applications.
Benefits of Copper Recycling:
Energy Conservation:
Recycling copper requires significantly less energy than extracting and refining new copper from ore, reducing reliance on fossil fuels and lowering

greenhouse gas emissions.
Resource Conservation:
Recycling reduces the need for mining, preserving natural resources and minimizing the environmental impact of mining operations.
Waste Reduction:
Recycling copper diverts waste from landfills, promoting a circular economy.
Environmental Protection:
Recycling copper minimizes pollution associated with mining and smelting processes.

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https://archive.org/details/@wazefapress

Resources:

https://www.kelownarecycling.ca/how-copper-is-recycled/

https://www.recyclingtoday.org/pages/copper-recycling

https://firstamerica.com/copper-recycling-101-why-its-more-valuable-than-you-think/

https://firstamerica.com/how-to-recycle-copper/

https://www.actionmetalsrecyclers.com/the-benefits-of-recycling-copper-scrap/

https://businessrecycling.com.au/recycle/copper

https://www.okonrecycling.com/industrial-scrap-metal-recycling/copper-recovery/scrap-copper-valuable/

https://internationalcopper.org/wp-content/uploads/2017/12/ica-copper-recycling-201712-A4-HR.pdf